



## **COMMISSIONING SUMMARY TEMPLATE**

The following template shall be completed and submitted for permit review.  
Provide additional attachments as appropriate.

### **SECTION 1 – PROJECT DESCRIPTION**

Name of Project	
Project Address	
Building/Mechanical Permit Number	
Owner	
Commissioning Authority	
Architect	
Engineer	
General Contractor	
Mechanical Contractor	

### **SECTION 2 – SUMMARY OF OWNER’S HVAC PROJECT REQUIREMENTS**

Summer Outdoor Design Conditions*	<b>99 °F DB</b>	<b>74 °F WB</b>	
Winter Outdoor Design Conditions*	<b>30 °F DB</b>		
Summer Indoor Design Conditions	°F DB	%RH	Occupied
Summer Indoor Design Conditions	°F DB	%RH	Unoccupied
Winter Indoor Design Conditions	°F DB		Occupied
Winter Indoor Design Conditions	°F DB		Unoccupied
Hours of Operation per Week	hours		
Conditioned Floor Space	sq. ft.		

\* - Outdoor design conditions mandated by COA Ordinance 20130606-091

## **SECTION 3 – DESCRIPTION OF COMMISSIONING PROCESS**

This section sequentially details the commissioning process by commissioning task or activity.

### **3.1 General Description of Roles**

Project Manager (PM):	Provide general project overview assisting the coordination of the Cx process.
Commissioning Authority (CA):	Coordinates the Cx process, develops testing plans, oversees and documents performance tests.
General Contractor (GC):	Facilitates the Cx process, ensures that Subs perform their responsibilities and integrates Cx into the construction process and master schedule. Facilitates the work of the CA.
Sub-Contractors:	Assist CA in functional performance testing as necessary.
Architect/Engineer (A/E):	Perform construction observation, approve O&M manuals and assist in resolving problems. Provides final approval of Cx work.

### **3.2 Commissioning Scoping Meeting**

A commissioning scoping meeting is planned and conducted by the CA. In attendance are the respective representatives of the GC, CA, A/E, and the mechanical and electrical subcontractors. At the meeting commissioning parties are introduced and the commissioning process reviewed, management and reporting lines determined, and the flow of documents is discussed. The *Cx Plan* is reviewed, process questions are addressed, lines of reporting and communications determined and the proposed commissioning schedule is provided. Prior to this meeting the CA is given, by the PM, all drawings and specifications and the construction schedule by trade.

### **3.3 Site Observation**

The CA makes periodic visits to the site, as necessary, to witness equipment and system installations.

### **3.4 Miscellaneous Meetings**

The CA attends selected planning and job-site meetings in order to remain informed on construction progress and to update parties involved in commissioning. The GC provides the CA with information regarding substitutions, change orders and any Architect's Supplemental Instructions (ASI) that may affect commissioning equipment, systems or the commissioning schedule.

### 3.5 Miscellaneous Management Protocols

The following protocols will be used on this project.

<b><u>Issue</u></b>	<b><u>Protocol</u></b>
For requests for information (RFI) or formal documentation requests:	The CA goes first through the GC to the subs
For minor or verbal information and clarifications:	The CA goes direct to the informed party.
For notifying contractors of deficiencies:	The CA documents deficiencies through the GC, but may discuss deficiency issues with the Subs.
For scheduling commissioning meetings:	The CA selects the date and schedules through the GC.
For making a request for significant changes:	The CA has no authority to issue change orders.
For making small changes in specified sequences of operations:	The CA may <u>not</u> make changes to specified sequences without approval from the Engineer of Record.
Subcontractors disagreeing with requests or interpretations by the CA shall:	Try and resolve with the CA first. Then work through GC who will work with CA directly.

### 3.6 Start-up Documentation

For equipment indicated in Section 4, Table 1 below, the installing sub-contractor shall submit equipment manufacturer provided start-up forms and documentation to the Commissioning Authority for review. In lieu of manufacturer generated start-up forms, contractor generated start-up forms are acceptable if they are submitted to the Commissioning Authority for review prior to start-up. This start-up documentation shall be completed prior to the mechanical rough-in inspection.

### 3.7 Execution of Functional Testing Procedures

#### *3.7.1 Overview and Process*

The CA schedules functional tests through the GC and affected Subs. The CA performs the functional testing of all equipment and systems according to the Specifications and the Cx Plan. The control system is tested before it is used to verify performance of other components or systems. Testing proceeds from components to subsystems to systems and finally to interlocks and connections between systems.

#### *3.7.2 Deficiencies Correction*

The CA documents the results of the testing. Corrections of minor deficiencies identified are made during the tests at the discretion of the CA. The CA records the results of the test on the procedure or test form. Deficiencies or non-conformance issues are noted and reported. A field progress report summarizing all deficiencies will be issued. Subs correct deficiencies, notify the CA, and return form certifying correction. Decisions regarding deficiencies and corrections are made at as low a level as possible, preferably between CA or GC and the Sub. For areas in dispute, final authority, besides the Owner's, resides with the Engineer of Record. The CA recommends acceptance of each test to the GC and/or Owner.

## SECTION 4 – DESCRIPTION OF EQUIPMENT TO BE COMMISSIONED

Use Table 1 to list the quantity of each type of HVAC equipment installed on the project, and the quantity of each type to be functionally tested. Include in this list the type and quantity of sensor/instruments to be calibrated during testing. Attach additional pages as necessary.

### **Table 1 - List of Equipment and Testing Plan**

[illegible]

*Notes:*

1. *The minimum percentage of any equipment type to be tested is 20% rounded up to the next whole integer.*
2. *Refer to section 3.6 above for start-up documentation requirements.*

## SECTION 5 – SEQUENCE OF OPERATIONS

Use this section to describe in detail the sequence of operations to be tested for each piece of equipment listed above OR provide specific reference to the Construction Documents (drawing no., specification section and paragraph number) in which the Sequence of Operations is contained. Attach additional pages as necessary.

[illegible]